



# Phase II and Phase III Archeological Database and Inventory

Site Number: 18AN143

Site Name: Luce Creek

Prehistoric ☒

Other name(s) Wright # S/LU-1

Historic ☐

Unknown ☐

Brief Description:

Middle Woodland shell midden

## Site Location and Environmental Data:

Latitude 39.0023 Longitude -76.5142

Elevation 12 m Site slope

Site setting

-Site Setting restricted

-Lat/Long accurate to within 1 sq. mile, user may need to make slight adjustments in mapping to account for sites near state/county lines or streams

Maryland Archeological Research Unit No. 7

SCS soil & sediment code 23) Coe

Physiographic province Western Shore Coastal

Terrestrial site ☒ Underwater site ☐

Ethnobotany profile available ☒ Maritime site ☐

### Nearest Surface Water

Name (if any) Luce Creek

#### Saltwater

Ocean ☐

Estuary/tidal river ☐

Tidewater/marsh ☒

Spring ☐

Minimum distance to water is 0 m

#### Freshwater

Stream/river ☐

Swamp ☐

Lake or pond ☐

## Temporal & Ethnic Contextual Data:

Paleoindian site ☐

Woodland site ☐

Archaic site ☐

MD Adena ☐

Early archaic ☐

Early woodland ☐

Middle archaic ☐

Mid. woodland ☒

Late archaic ☐

Late woodland ☐

Unknown prehistoric context ☐

Contact period site ☐

ca. 1820 - 1860 ☐

ca. 1630 - 1675 ☐

ca. 1860 - 1900 ☐

ca. 1675 - 1720 ☐

ca. 1900 - 1930 ☐

ca. 1720 - 1780 ☐

Post 1930 ☐

ca. 1780 - 1820 ☐

Unknown historic context ☐

Unknown context ☐

### Ethnic Associations (historic only)

Native American ☐

Asian American ☐

African American ☐

Unknown ☐

Anglo-American ☐

Other ☐

Hispanic ☐

Y=Confirmed, P=Possible

## Site Function Contextual Data:

### Prehistoric

Multi-component ☐

Misc. ceremonial ☐

Village ☐

Rock art ☐

Hamlet ☐

Shell midden ☒

Base camp ☒

STU/lithic scatter ☐

Rockshelter/cave ☐

Quarry/extraction ☐

Earthen mound ☐

Fish weir ☐

Cairn ☐

Production area ☐

Burial area ☐

Unknown ☐

Other context ☐

### Historic

Urban/Rural? ☐

#### Domestic

Homestead ☐

Farmstead ☐

Mansion ☐

Plantation ☐

Row/townhome ☐

Cellar ☐

Privy ☐

#### Industrial

Mining-related ☐

Quarry-related ☐

Mill ☐

Black/metalsmith ☐

Furnace/forge ☐

Other ☐

#### Transportation

Canal-related ☐

Road/railroad ☐

Wharf/landing ☐

Maritime-related ☐

Bridge ☐

Ford ☐

#### Educational

#### Commercial

Trading post ☐

Store ☐

Tavern/inn ☐

#### Military

Battlefield ☐

Fortification ☐

Encampment ☐

#### Townsite

#### Religious

Church/mtg house ☐

Ch support bldg ☐

#### Burial area

Cemetery ☐

Sepulchre ☐

Isolated burial ☐

#### Bldg or foundation

Possible Structure ☐

Post-in-ground ☐

Frame-built ☐

Masonry ☐

Other structure ☐

#### Slave related

#### Non-domestic agri

#### Recreational

Midden/dump ☐

Artifact scatter ☐

Spring or well ☐

Unknown ☐

Other context ☐

## Interpretive Sampling Data:

### Prehistoric context samples

Soil samples taken ☒

Flotation samples taken ☒

Other samples taken

oyster shell (Ed Otter)

### Historic context samples

Soil samples taken ☐

Flotation samples taken ☐

Other samples taken



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## Diagnostic Artifact Data:

Projectile Point Types	
Clovis	<input type="checkbox"/>
Hardaway-Dalton	<input type="checkbox"/>
Palmer	<input type="checkbox"/>
Kirk (notch)	<input type="checkbox"/>
Kirk (stem)	<input type="checkbox"/>
Le Croy	<input type="checkbox"/>
Morrow Mntn	<input type="checkbox"/>
Guilford	<input type="checkbox"/>
Brewerton	<input type="checkbox"/>
Otter Creek	<input type="checkbox"/>
Koens-Crispin	<input type="checkbox"/>
Perkiomen	<input type="checkbox"/>
Susquehanna	<input type="checkbox"/>
Vernon	<input type="checkbox"/>
Piscataway	<input type="checkbox"/>
Calvert	<input type="checkbox"/>
Selby Bay	<input type="checkbox"/>
Jacks Rf (notch)	<input type="checkbox"/>
Jacks Rf (pent)	<input type="checkbox"/>
Madison/Potomac	<input type="checkbox"/>
Levanna	<input type="checkbox"/>

## Prehistoric Sherd Types

Marcey Creek	<input type="checkbox"/>	Popes Creek	<input type="checkbox"/>	Shepard	<input type="checkbox"/>	Keyser	<input type="checkbox"/>
Dames Qtr	<input type="checkbox"/>	Coulbourn	<input type="checkbox"/>	Townsend	<input type="checkbox"/>	Yeocomico	<input type="checkbox"/>
Selden Island	<input type="checkbox"/>	Watson	<input type="checkbox"/>	Minguannan	<input type="checkbox"/>	Monongahela	<input type="checkbox"/>
Accokeek	<input type="checkbox"/>	Mockley	<input type="checkbox"/>	Sullivan Cove	<input type="checkbox"/>	Susquehannock	<input type="checkbox"/>
Wolfe Neck	<input type="checkbox"/>	Clemson Island	<input type="checkbox"/>	Shenks Ferry	<input type="checkbox"/>		
Vinette	<input type="checkbox"/>	Page	<input type="checkbox"/>	Moyaone	<input type="checkbox"/>		
				Potomac Cr	<input type="checkbox"/>		

## Historic Sherd Types

<b>Earthenware</b>	Ironstone	<input type="checkbox"/>	Staffordshire	<input type="checkbox"/>	<b>Stoneware</b>	
Astbury	Jackfield	<input type="checkbox"/>	Tin Glazed	<input type="checkbox"/>	English Brown	<input type="checkbox"/>
Borderware	Mn Mottled	<input type="checkbox"/>	Whiteware	<input type="checkbox"/>	Eng Dry-bodie	<input type="checkbox"/>
Buckley	North Devon	<input type="checkbox"/>	<b>Porcelain</b>	<input type="checkbox"/>	Nottingham	<input type="checkbox"/>
Creamware	Pearlware	<input type="checkbox"/>			Rhenish	<input type="checkbox"/>
					Wt Salt-glazed	<input type="checkbox"/>

All quantities exact or estimated minimal counts

## Other Artifact & Feature Types:

<b>Prehistoric Artifacts</b>	Other fired clay	<input type="checkbox"/>	
Flaked stone	363	Human remain(s)	<input type="checkbox"/>
Ground stone	<input type="checkbox"/>	Modified faunal	<input type="checkbox"/>
Stone bowls	<input type="checkbox"/>	Unmod faunal	<input type="checkbox"/>
Fire-cracked rock	11	Oyster shell	<input checked="" type="checkbox"/>
Other lithics (all)	48	Floral material	<input type="checkbox"/>
Ceramics (all)	260	Uncommon Obj.	<input type="checkbox"/>
Rimsherds	<input type="checkbox"/>	Other	<input type="checkbox"/>

## Prehistoric Features

Mound(s)	<input type="checkbox"/>	Storage/trash pit	<input type="checkbox"/>
Midden	<input type="checkbox"/>	Burial(s)	<input type="checkbox"/>
Shell midden	<input checked="" type="checkbox"/>	Ossuary	<input type="checkbox"/>
Postholes/molds	<input type="checkbox"/>	Unknown	<input type="checkbox"/>
House pattern(s)	<input type="checkbox"/>	Other	<input type="checkbox"/>
Palisade(s)	<input type="checkbox"/>		
Hearth(s)	<input type="checkbox"/>		
Lithic reduc area	<input type="checkbox"/>		

## Lithic Material

Fer quartzite	<input type="checkbox"/>	Sil sandstone	<input type="checkbox"/>
Jasper	<input checked="" type="checkbox"/>	Chalcedony	<input type="checkbox"/>
Chert	<input type="checkbox"/>	Ironstone	<input type="checkbox"/>
Rhyolite	<input checked="" type="checkbox"/>	Argilite	<input type="checkbox"/>
Quartz	<input checked="" type="checkbox"/>	Steatite	<input type="checkbox"/>
Quartzite	<input checked="" type="checkbox"/>	Sandstone	<input type="checkbox"/>

☒ Dated features present at site

Shell midden and a separate, smaller shell concentration to the south of the midden.

<b>Historic Artifacts</b>	Tobacco related	<input type="checkbox"/>
Pottery (all)	Activity item(s)	<input type="checkbox"/>
Glass (all)	Human remain(s)	<input type="checkbox"/>
Architectoral	Faunal material	<input type="checkbox"/>
Furniture	Misc. kitchen	<input type="checkbox"/>
Arms	Floral material	<input type="checkbox"/>
Clothing	Misc.	<input type="checkbox"/>
Personal items	Other	<input type="checkbox"/>

## Historic Features

Privy/outhouse	<input type="checkbox"/>	Depression/mound	<input type="checkbox"/>	Unknown	<input type="checkbox"/>
Const feature	<input type="checkbox"/>	Burial(s)	<input type="checkbox"/>	Other	<input type="checkbox"/>
Foundation	<input type="checkbox"/>	Trash pit/dump	<input type="checkbox"/>		
Cellar hole/cellar	<input type="checkbox"/>	Sheet midden	<input type="checkbox"/>		
Hearth/chimney	<input type="checkbox"/>	Planting feature	<input type="checkbox"/>		
Postholes/molds	<input type="checkbox"/>	Road/walkway	<input type="checkbox"/>		
Paling ditch/fence	<input type="checkbox"/>				

All quantities exact or estimated minimal counts

## Radiocarbon Data:

Sample 1: 1370 +/- 120 years BP

Reliability

MI-1608: Charcoal sample from a Selby Bay shell midden. Associated with possible "Adena" point, debitage, and 102 Mockley sherds.

High

Sample 2: 2130 +/- 70 years BP

Reliability

B-57963: Charcoal sample from a shell concentration. Associated with debitage and 7 Mockley sherds.

Low

Sample 3: 2108 +/- 24 years BP

Reliability

S-5082: Direct AMS date on the shell temper (C. virginica) from a Mockley sherd in the collection (Test Unit 1).

24

Sample 4: 2186 +/- 22 years BP

Reliability

S-5083: Direct AMS date on the shell temper (C. virginica) from a Mockley sherd in the collection (Test Unit 1).

High

Sample 5: 2285 +/- 25 years BP

Reliability

S-5084: Direct AMS date on the shell temper (C. virginica) from a Mockley sherd in the collection (Test Unit 1).

High

Sample 6: +/- years BP

Reliability

Sample 7: +/- years BP

Reliability

Sample 8: +/- years BP

Reliability

Sample 9: +/- years BP

Reliability

☐ Additional radiocarbon results available



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Brief Description:

Middle Woodland shell midden

Unknown ☐

## External Samples/Data:

Collection curated at MAC

☒ Additional raw data may be available online

## Summary Description:

The Luce Creek site (18AN143), also known as the Wright # S/LU-1 Site, is a Middle Woodland shell midden just north of Annapolis in Anne Arundel County. The site is situated on a point of land above and overlooking Luce Creek. The banks surrounding the site are quite steep and the site is exposed to the north wind. Most of the surrounding landscape is rolling with a few small knolls and predominantly mixed hardwood forest (with some stands of Virginia pine). A residence has been situated on the site since at least the mid 20th century (when the site was first formally excavated). Soils at the site are Monmouth-Collington fine sandy loams.

The site was described and documented in 1958 by Henry T. Wright, who was conducting a survey of the Chesapeake Bay area in the late 1950s and early 1960s. The site was discovered during a detailed examination of the Severn River (and tributary) shorelines. Wright reported a visible oyster shell deposit roughly 10.7 m (35 ft) wide extending along the creek bank over an area 36.6 m (120 ft) in length. He estimated that the construction of a house on the site, as well as erosion had destroyed as much as 90% of the original site area.

Wright's investigation of 18AN143 consisted of the excavation of a single 1.22 m (4 ft) test square in the north-central portion of the site. This test unit was excavated in arbitrary levels within natural strata and all soils were screened through hardware cloth. Excavation proceeded to a depth of approximately 34 cm (1.1 ft), and into sterile subsoil. The excavations revealed a possible Selby Bay component characterized by Mockley sherds and a possible Adena point. The artifact assemblage included 2 projectile point fragments, 1 biface, 3 flakes, 25 other lithics, 11 pieces of fire-cracked rock, 102 Mockley sherds, a polished mammal bone, 28 split mammal bones, 3 calcined bones, 2 bird bones, a reptile bone, a fish bone, at least 99 turtle bone fragments, at least 22 unidentified mammal bone, 3 clam shell fragments, and 2 mussel shell fragments. A charcoal sample was also collected from the midden, which placed the site within the Middle Woodland Period. It produced an uncalibrated radiocarbon date of 1370±120 radiocarbon years before present. When calibrated, this corresponds to a calendrical date range (2 sigma) of AD 423-944.

No additional documented research took place at 18AN143 until 1990/1991. At that time a Phase I intensive archeological survey was conducted at the site and in the surrounding area which were then part of a residential development property. The (then) proposed Riverwatch Subdivision encompassed a 9 acre parcel on which single-family residential homes would be constructed, along with associated infrastructure. Because the terrain was known to have an archeological site present (i.e. 18AN143), and most of the construction area was, thus, deemed to have a high potential for containing additional cultural resources, a Phase I survey was requested by the Anne Arundel County Department of Planning and Zoning. The work was mandated by regulations set forth in Article 26, Title 3-109 of the Anne Arundel County Subdivision Regulations.

Phase I work in 1991 74 shovel test pits (STPs) across the development parcel, generally at 20 m intervals. Eight of the shovel tests fell within the area of the site. STPs were dug to at least 10 cm below cultural material recovery in the subsoil. In addition to the shovel testing, field personnel also visually examined the eroding creek bank. Artifacts recovered during the Phase I survey included a quartz uniface, 12 rhyolite flakes, 2 jasper flakes, 2 quartzite pebble spalls, 20 slate fragments (counted as other lithics), 3 shell-tempered sherds, and 1 shell and sand-tempered sherd. Given the nature and type of cultural material recovered during the Phase I survey in addition to the data gathered by Wright, the site was determined to be potentially culturally significant. Therefore it was recommended for Phase II archeological testing.

The Phase II work was carried out in 1992 and entailed both additional shovel testing and the formal excavation of an area equal to ten 1 X 1 m test units. Archeological field testing of the site was confined to the undisturbed area proposed for a residential dwelling. No testing was conducted beyond this area as it would not be impacted by construction and the excluded areas had already been impacted by other residential dwellings and roads.

Testing initially commenced with the excavation of shovel test pits on a 5 meter grid pattern to establish the areal distribution of artifacts across the site. Shovel test pits were 50 X 50 cm in size and were excavated in 10 cm levels within natural stratigraphy to the culturally sterile B horizon. The soil from each STP was screened through hardware cloth, and each level was documented according to soil color and composition as well as the presence or absence of cultural materials. A total of 169 shovel tests were excavated. The STPs revealed that the site was confined to a relatively small area within a wooded locus north of an existing dwelling. Specifically, the artifacts were confined to within a topographic swale extending south from the shell deposit.

Subsequently, one 2 X 2 m test unit and six 1 X 1 m test units were excavated to identify potential cultural features. The test units were positioned where recovered artifacts and potential features were expected to be more plentiful. During the field testing, it was determined that the bank where the shell midden was located would not be impacted by proposed construction. However, with the permission of the property owner and developer, one test unit was excavated within the midden to obtain additional data and to aid in evaluating the entire site.

All of the test units were hand excavated using a shovel and trowel, in 10 cm levels within natural levels to the culturally sterile B horizon. The soil from each test unit was dry-screened through hardware cloth, and each level was documented according to soil color and composition, as well as the presence or absence of cultural materials on standardized forms. At the completion of each excavation unit, a floor plan was drawn unless no anomalies were observed. In addition, the north wall profile of each unit was drawn to better understand site stratigraphy.

To recover as many artifacts and ecofacts as possible from the test units, all oyster shell which would not pass through hardware cloth (during dry screening) was collected in cloth feed sacks. The oyster shells were then water screened through 2 mm screen. All of the soil from water screening was collected for flotation.

One feature (in addition to the well-documented shell midden) was identified during the Phase II study. This was a second concentration of shell identified in several shovel tests within a small section of the site about 13 meters south of the main shell midden. This locus was considered to be a separate activity area/feature based on the total absence of oyster shell within the area between the feature (hereafter referred to as the "secondary shell concentration" and the main shell midden. It was in this area that the 2 X 2 m test unit was placed. The 2 X 2 m unit revealed a rather dense concentration of oyster shells and Selby Bay phase artifacts. Two additional units (1 X 1s) were also excavated within the secondary shell concentration, which revealed that within these locations, the oyster shells were considerably less dense, as if they were on the edge of the feature. Additional nearby units produced very little shell and were probably outside the concentration.



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Historic ☐

Brief  
Description:

Middle Woodland shell midden

Unknown ☐

Wood charcoal was collected from within the secondary shell concentration and submitted for a radiocarbon assay. It produced an uncalibrated date of  $2130 \pm 70$  radiocarbon years before present. When calibrated, this corresponds to a calendrical date range (2 sigma) of 370 BC – AD 1. This is much earlier than the generally accepted date range for Mockley ceramics (7 sherds were recovered from the unit within the feature that was sampled) of roughly AD 200 - 900. It would place the feature in the Early Woodland and thus, non-contemporaneous with the Selby Bay component universally seen elsewhere throughout the site. It is probably erroneous.

The single 1 X 1 m unit excavated into the shell midden contained dense and compact concentration of oyster shell as expected. The midden extended to a depth roughly equivalent to that observed by Wright in the late 1950s.

Within all of the shovel tests and test units, no vertical stratification of artifacts was noted. In fact, based strictly on diagnostic projectile points and pottery alone, the site appears to represent one or more occupations relating to the Middle Woodland Selby Bay Phase.

Artifacts recovered during the Phase II study included 3 Selby Bay points, 4 point fragments, 1 other biface fragment, 1 core, 59 primary flakes, 158 secondary flakes, 114 tertiary flakes, 3 hammer/nutting stones, 74 Mockley sherds, 33 badly eroded and unidentifiable sherds, and 47 unidentifiable sherdlets. Within the lithic assemblage, the most common raw material is rhyolite (not available locally) with 315 specimens recovered, followed by jasper (21), quartz (2), quartzite (1), and chert (1).

Floral specimens were recovered from a majority of the test units excavated during Phase II work. The greatest number came from the unit placed within the shell midden. A single blackberry seed, 73 charred hickory nutshell fragments (27.2g), 9 acorn fragments (2.6g), and 105 charred wood fragments were recovered.

Data from the shovel test pits and test units suggest that there was likely more than one occupation of the site and that it was possibly utilized as a base camp where food was seasonally being collected and processed. This is evidenced by slight differences in the oyster shells from two different test units, as well as the presence of jasper in only the test units placed within the shell concentration. The presence of native botanicals found in the test units in a charred state indicates that the area was being occupied from early summer (based on the presence of a blackberry seed) through late fall (based on the presence of hickory nuts and acorns) and was possibly part of the occupants' seasonal round. The types of botanicals recovered from the test units also indicate that the site inhabitants were utilizing plant and animal resources typically found in estuarine environments and that relatively extensive exploitation of these locally available food stuffs may have taken place. Oyster shell analysis also indicates a pattern of non-intensive harvest over an extended period of time as opposed to short-term intensive harvesting. All of the oyster shells from all of the various proveniences across the site appear to have been collected from the same type of environment (e.g. from hard muddy sand in relatively shallow water). Growth ring analysis on a small sample of shells also indicates that the majority of the oysters were harvested over a period of at least four months between mid-March and late July, but harvesting may have also taken place (to a lesser extent) between December and March.

The lithic artifacts recovered at the site were determined to have been deposited into the archeological record through two processes: 1) implements were broken during the manufacturing process and abandoned, or 2) implements were broken or dulled during use and discarded when they were replaced. The majority of the rhyolite artifacts may have been brought to the site in finished form and were abandoned at the locus when they broke from use.

An examination of the site artifact and raw material distribution maps revealed several concentrations of cultural material suggesting "activity areas". Specifically, all of the jasper artifacts were found within one small section of the site and may actually represent a separate occupation of the locus. Although no specific concentrations of ceramic varieties were discerned, the variations in the clay from which the assemblage was manufactured would suggest that pottery had been brought to the site at different times or from different locations.

Unfortunately, the assumed major-component nature of the site was challenged by the single radiocarbon date obtained from wood charcoal in the shell concentration of one test unit. The calendrical date range of 370 BC – AD 1 corresponds to the Early Woodland period rather than the Middle Woodland Period Selby Bay Phase which seems to be represented by the entirety of the artifact assemblage.

Phase II archeological testing in 1992 revealed that the site has been considerably altered by the construction of a dwelling. It is postulated that at least one-half of the site was located where an extant (since at least the 1950s) residential structure and driveway are situated. The Phase II investigations consisted of testing approximately 20% of the total site area and over 50% of the intact secondary shell concentration located south of the shell midden tested by Wright. The sample size is considered adequate for study given the small size of the undisturbed piece of the site located within the proposed impact area. It is unlikely that additional testing in this portion of the site will yield anything more than a collection of additional, similar artifacts. Although the shell midden still present at 18AN143 represents only a small portion of what was once present, it continues to be considered culturally significant.

In 2013-2014, three Mockley sherds were analyzed by researcher at the Smithsonian Institution working to refine the technique of direct dating on shell used as a tempering agent. Shell (*C. virginica*) temper from the sherds was direct dated using Accelerator Mass Spectroscopy (AMS). All of the sherds came from the same test unit and produced uncalibrated radiocarbon dates of  $2108 \pm 24$  years,  $2186 \pm 22$  years, and  $2285 \pm 25$  years before present. After calibration and adjustment for the local reservoir effect, these samples all produced Middle Woodland dates consistent with the known age of Mockley and calling into question the Early Woodland date obtained in the 1990s. When calibrated these radiocarbon ages correspond to calendrical dates of AD 350-440, AD 260-360, and AD 140-240 respectively.

Through a discussion with the Anne Arundel County Archeologist, the County Planning and Zoning Office, the property owner/developer, and the Phase II project archeologists, it was determined that the midden itself would not be impacted by (then) proposed construction or related activities. Subsequently, this portion of the site was delineated by placing a line of pin flags around the culturally significant portion of the site and it was avoided. Thus, intact portions of the shell midden remain and as a single component site, 18AN143 should still be considered a significant archeological resource.

### External Reference Codes (Library ID Numbers):

00006827, 95000498, 00000674, 00000732, 18AN143 SF